27 June 1961

CHANGE IN PRIMARY MIRROR SIZE - SUMMARY:

PROPOSAL:

It was proposed that the primary mirror in each optical system after the prototype be made 2" shorter at each end of the long dimension (i.e. 4" total).

ACTION:

This proposal was adopted at a meeting 23 June 1961.

ADVANTAGES:

(1) Improves transfer function in short (most limiting) direction of the aperture, and is not very harmful in long direction; (2) it will be much easier to mount the shorter mirror; (3) each mirror will be about 2 pounds lighter; (4) the shell can be slightly shortened, saving about 3/4 pound each; and (5) the five mirror blanks (required for the following production units) are each $3,000 less than the blank used in the prototype.

DISADVANTAGE:

Exposure compensation for vignetted light ($\sim$70% at 10°, $\sim$ 80% at 9°, $\sim$90% at 8°, and 100% transmission from 7° to the axis) may be required.

ADDITIONAL PERTINENT FACTORS (neither advantageous nor disadvantageous):

The optical bench on following units was to be redesigned anyway, so redesign can also allow for changed primary; and existing prototype primary mirror can be baffled to obtain same effect as cutting following units.

(Concurred in: RMS, MDR, RVS, ASM, AO, JC 23 June 1961)

MDR
26 June 1961

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